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10/751,711

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Hyun-Jung Mun

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EXAMINER

REGO, DOMINIC E

ART UNIT

PAPER NUMBER

2618

| SHORTENED STATUTORY PERIOD OF RESPONSE | MAIL DATE | DELIVERY MODE |
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3 MONTHS

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

| | | | |
|------------------------------|------------------------|---------------------|--|
| Office Action Summary | Application No. | Applicant(s) | |
| | 10/751,711 | MUN, HYUN-JUNG | |
| | Examiner | Art Unit | |
| | Dominic E. Rego | 2618 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 January 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-9 and 14-18 is/are allowed.
- 6) ☒ Claim(s) 10-13 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Objections

1. The numbering of claims is not in accordance with 37 CFR 1.126 which requires the original numbering of the claims to be preserved throughout the prosecution. When claims are canceled, the remaining claims must not be renumbered. When new claims are presented, they must be numbered consecutively beginning with the number next following the highest numbered claims previously presented (whether entered or not).

Misnumbered claim 10-(c) been renumbered 10-(a).

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 10 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Goldberg (US Patent Application Publication #2004/0048575) in view of Wiberg et al. (US Patent #6,628,946).

Regarding claim 10, Goldberg teaches a method for providing public land mobile network (PLMN) information of a base station operated by a first business operator having a cell which is overlapped with a cell of a base station operated by a second business operator using an identical frequency, the method comprising the steps of:

(c) producing system information;

(b) producing cell overlapping information indicating that the base station is overlapped with the base station operated by the second business operator (Paragraph 0018, Claims 6,7, and 17);

(c) adding the cell overlapping information to the system information (Paragraph 0018, Claims 6,7, and 17), except for (c) producing system information; (d) broadcasting the system information.

However, in related art, Wiberg teaches a method for providing public land mobile network (PLMN) information of a base station operated by a first business operator having a cell which is overlapped with a cell of a base station operated by a second business operator using an identical frequency, the method comprising the steps of: (c) producing system information; (d) broadcasting the system information (Col 1, lines 33-53; Col 3, lines 24-49; Col 6, line 66-Col 7, lines 32; Col 12, line 42-Col 13, line 2).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to use the teaching of the method comprising the steps of: (c) producing system information; (d) broadcasting the system information including the cell overlapped information from Goldberg, as taught by Wiberg, in the Goldberg system in order to obtain appropriate information for handing over to alternative systems having coverage areas that overlap that of the wireless local area network.

Regarding claim 11, the combination of Goldberg and Wiberg teach all the claimed limitations in claim 10. In addition, Goldberg teaches the method, wherein the

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cell overlapped information includes at least one of (i) a timing offset and a scrambling code for demodulating a PLMN overlapped with a base station in a different network using the frequency as that of the home base station, (ii) information as to whether overlapped areas are present (Paragraph 0018, Claims 6,7, and 17), (iii) number information of an overlapped PLMN, and (iv) identification information of a PLMN forming an overlapped cell.

Claims 12 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Goldberg (US Patent Application Publication #2004/0048575) in view of Wiberg et al. (US Patent #6,628,946) and further in view of Willenegger et al. (US Patent Application Publication #2006/0189272).

Regarding claim 12, the combination of Goldberg and Wiberg teach all the claimed limitations in claim 10 except for the method, wherein step (b) comprises: (b-1) receiving timing difference information from a mobile station which is located in an identical cell of the base station operated by the first business operator; and (b-2) extracting a timing offset using the timing difference information.

However, in related art, Willenegger teaches for the method, wherein step (b) comprises: (b-1) receiving timing difference information from a mobile station which is located in an identical cell of the base station operated by the first business operator; and (b-2) extracting a timing offset using the timing difference information (Paragraph 0245).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to use the teaching of the method, wherein step (b) comprises: (b-1) receiving timing difference information from a mobile station which is located in an identical cell of the base station operated by the first business operator; and (b-2) extracting a timing offset using the timing difference information, as taught by Willenegger, in the combination of Goldberg and Wiberg system in order to accomplish the hand-off.

Regarding claim 13, the combination of Goldberg, Wiberg, and Willenegger teach all the claimed elements in claim 12. In addition, Willenegger teaches the method, wherein step (c) comprises: (c-1) adding the timing offset (Paragraph 0245) and Wiberg teaches the method, wherein step (c) comprises: a scrambling code to the system information (Col 13, lines 24-54).

Allowable Subject Matter

3. Claims 1-9 and 14-18 are allowed.
4. The following is a statement of reasons for the indication of allowable subject matter:

Regarding claims 1 and 14, the prior art of record, specifically Hunkeler (US Patent Application #2004/0063426) teaches a method for acquiring a public land mobile network (PLMN) of a mobile station for registering the mobile station in a cell overlapped operated by a first business operator with a cell of a base station operated

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by a second business operator (Paragraphs 0021-0038), Lim et al. (US Patent Application Publication #2003/0117996) teaches the method comprising the steps of:

(i) scanning a plurality of slot synchronizations having different signal strengths using a previously set carrier frequency (Paragraph 0007),

(ii) determining whether a corresponding base station is operated based on home PLMN information included in system information in response to a slot synchronization having a strongest signal strength (Paragraph 0007);

However, none of the prior art cited alone or in combination provides the motivation to teach (iii) extracting cell overlapped information from the system information when the corresponding base station is not operated based on the home PLMN, the cell overlapped information indicating that a base station is overlapped with the base station operated by the second business operator; and

(iv) re-executing a PLMN acquisition procedure for different slot synchronizations with respect to an identical frequency based on the cell overlapped information.

Dependent claims 2-9, and 15-18 are allowed for the same reasons.

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Yamashita (US Patent #6,256,500) teaches mobile radio communication system with macro and micro cell handoff based on mobile determined crossing rates and fading rates.

Toshimitsu et al. (US Patent #7,006,465) teaches radio communication scheme.

Holma et al. (US Patent Application Publication #2002/0105927) teaches method and system for inter-operator handover between WCDMA and GSM.

Lescuyer (US Patent Application Publication #2004/0242260) teaches method for controlling radio resources allocated to a mobile terminal in a cellular system.

Bada et al. (US Patent Application Publication #2005/0075125) teaches method and mobile station to perform the initial cell search in time slotted systems.

Molne (US Patent #5,999,811) teaches mobile telephone for roaming using dual mode/band equipment including SIM card.

Beasley et al. (US Patent Application Publication #2002/0187749) teaches wireless base station to base station synchronization in a communication system, such as a system employing a short-range frequency hopping or time division duplex scheme.

Jansen (US Patent Application Publication #2005/0221846) teaches method for speeding up synchronization by having a search frequency list comprising a limited number of search frequencies.

Mildh et al. (US Patent #7,142,860) teaches network/cell/interface selection in mixed networks.

Proctor, Jr. (US Patent #7,113,786) teaches antenna adaptation to manage the active set to manipulate soft hand-off regions.

Rune et al. (US Patent #7,054,638) teaches controlling transmission of cell information between control nodes in radio access network.

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Bodin (US Patent #6,122,512) teaches method and apparatus for mobile station geographical location determination.

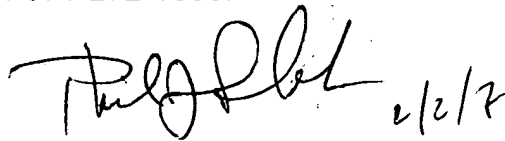
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dominic E. Rego whose telephone number is 571-272-8132. The examiner can normally be reached on Monday-Friday, 8:30 am-5 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nay Maung can be reached on 571-272-7882. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Dominic E. Rego

 2/2/2

PHILIP J. SOBUTKA
PATENT EXAMINER